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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,402	11/13/2003	Tatsuyuki Tokunaga	1232-5207	9908

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EXAMINER	
DURNFORD GESZVAIN, DILLON	
ART UNIT	**PAPER NUMBER**
2622	

NOTIFICATION DATE	DELIVERY MODE
12/12/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/713,402	TOKUNAGA, TATSUYUKI	
	Examiner	Art Unit	
	Dillon Durnford-Geszvain	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 5-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-8 and 10-14* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/25/2008 has been entered.

Response to Amendment

2. Claims **1, 2** and **5-14** are pending, claims **1, 2, 13** and **14** are amended, and claims **3** and **4** are cancelled.

Response to Arguments

3. Applicant's arguments filed 8/25/2008 have been fully considered but they are not persuasive.

4. As to claims **1** and **13**, the Applicant argues that Koyama does not teach using a timing signal having a first phase when the temperature is in a first range, and using a timing signal having a second phase when the temperature is in a second range. The Examiner respectfully disagrees. Specifically, see C8 L11-23, and note that this third embodiment specifically teaches the limitation that the Applicant alleges not being taught.

5. As to claim **8**, the Applicant argues that the limitation in the claim means that "the relationship between the two timing signals is obtained based on the comparison between signals obtained by converting the analog signal by the analog-digital converter for each shifted phase." (p. 8 of remarks). The Examiner disagrees with the Applicant's interpretation of the claim. The claim reads "a controller that controls a relationship between a phase of a timing signal for reading out the analog signal from the image sensor and a phase oh a timing signal for operating said analog-digital converter on the basis of signals obtained by relatively shifting in time sequence the phase of a timing signal for reading out the analog signal and the phase of the timing signal for operating said analog-digital converter." (emphasis added). The claim does not require, as the Applicant asserts, that the signal obtained is the signal that is read out from the analog-digital converter.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims **1, 2, 6, 8, 11, 13** and **14** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 7,061,530 (Koyama) in view of US 6,897,699 (Nguyen).

8. As to claim **1**, Koyama teaches an image sensing apparatus having an image sensor for sensing an image of an object, comprising:

an analog-digital converter 14 (see Fig. 1) that operates at a predetermined frequency and converts an analog signal read from the image sensor to a digital signal;

and

a controller 13 that controls a relationship between a phase of the analog signal read from the image sensor and a phase of a timing signal for operating said analog-digital converter in accordance with a peripheral condition of the image sensing apparatus (C2 L65 to C3 L2 and C3 L44-49),

wherein said controller uses the timing signal having a first phase when the temperature is in a first range, and uses the timing signal having a second phase when the measured temperature is in a second range (see C6 L15-48 and C8 L11-23 of Koyama and note that embodiment 3 works in much the same way but it resets every time period T2).

What Koyama does not teach is measuring the temperature and controlling the relationship between the phase of the timing signals in accordance with the measured temperature.

However, Nguyen teaches a controller for controlling the relationship between the phase of two clocks based on the measured temperature (C1 L39-48, C7 L24-29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have measured the temperature of the device in Koyama and to have adjusted the phase difference in accordance with the measured temperature as is done in Nguyen as this would allow for the device of Koyama to be more precisely controlled with respect to the peripheral conditions that the circuit is operating in.

9. As to claim **2**, see the rejection of claim **1** and note that Koyama in view of Nguyen would further teach the image sensing apparatus according to claim **1**, further comprising a memory (62-64, see Fig. 5 of Koyama) that stores a plurality of different phases of the timing signal in correspondence with different peripheral conditions in advance,

wherein said controller searches the phase of the timing signal which corresponds to the peripheral condition (C7 L47-62 of Koyama).

10. As to claim **6**, see the rejection of claim **1** and note that Koyama further teaches the image sensing apparatus according to claim **1**, wherein said controller adjusts the relationship between the phase of the timing signal for reading out the analog signal from the image sensor and the phase of the timing signal for operating said analog-digital converter so that a digital signal obtained by converting the signal read from the image sensor by said analog-digital converter becomes maximum (see C6 L15-49 and note that when the noise signal is minimized the signal level will be a maximum, further note that embodiment 3 works in much the same way but it resets every time period T2).

11. Claim **8** is similar to claim **6** but with the additional limitation, not explicitly taught by Koyama, that the comparison signal is obtained by relatively shifting in time sequence the phase of the two timing signals.

However, Nguyen teaches obtaining phase difference signals by relatively

shifting the phase in time sequence (C 3 L1-16). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the shifting in time sequence as taught by Nguyen in the apparatus taught by Koyama as this would allow for the device of Koyama to be more precisely controlled with respect to the peripheral conditions that the circuit is operating in.

12. The limitations of claim **11** roughly correspond to claim **6** and are rejected on the same grounds but depending from claim **8**.

13. Claims **13** and **14** are methods that correspond to claims **1** and **8** respectively and therefore are rejected on the same grounds but directed to a method.

14. Claims **5, 7, 10** and **12** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 7,061,530 (Koyama) in view of US 6,897,699 (Nguyen) further in view of US 6,160,578 (Carroll).

15. As to claim **5**, see the rejection of claim **1** and note what neither Koyama nor Nguyen teach is a plurality of output units and a multiplexer that multiplexes the signals from the plurality of output units.

However Carroll teaches a plurality of output units that read signals from the image sensor (not shown, but comprising at least vertical CCDs as the imager used in the apparatus of Carroll is a CCD); and

a multiplexer that multiplexes the signals from said plurality of output units to a

time sequential signal and outputs the time sequential signal (C9 L13-23 and note that the signals "RGRG" and "GBGB" of Fig. 3 are multiplexed signals),

wherein the time sequential signal from said multiplexer is outputted to an analog-digital converter (see Fig. 3).

16. As to claim **7**, see the rejection of claim **5** and note that Carroll further teaches image sensing apparatus according to claim **5**, wherein said controller adjusts the relationship between the phase of the timing signal for reading out the analog signal from said image sensor and the phase of the timing signal for operating said analog-digital converter so that a difference between the signals from said plurality of output units becomes minimum (see C9 L6 to C10 L8 and note that the setting of the clocks entails setting them so that the difference in the signals that were multiplexed is a minimum so that the video can be reconstructed).

17. Claims **10** and **12** correspond to claims **5** and **7** but depend from claim **8** and therefore are rejected on the same grounds as claims **5** and **7** but depending from claim **8**.

Allowable Subject Matter

18. Claim **9** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

19. The following is a statement of reasons for the indication of allowable subject matter: see the Office Action mailed 5/30/2008 for reasons for allowance.

Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon Durnford-Geszvain whose telephone number is (571)272-2829. The examiner can normally be reached on Monday through Friday 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dillon Durnford-Geszvain 12/5/2008

/David L. Ometz/
Supervisory Patent Examiner, Art Unit 2622